

Apexcardiography Acquisition Study

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Objective: To provide a setup and data recording protocol to collect apexcardiogram (ACG) and electrocardiogram (ECG)

Equipment:

- iWorks RA 834 recorder and stimulator
- iWire-BIO4 biopotential recording module
- PT-104 pressure sensor transducer
- Tilt table or bed
- Computer with installed Labscribe4 software

Procedure:

Hardware Setup:

- Connect ECG leads to subject and iWire-BIO4 biopotential recording module.
 - Connect red (+) snap wire to sticker electrode placed under the left clavicle.
 - Connect black (-) snap wire to sticker electrode placed under the right clavicle.
 - Connect green (ground) snap wire to sticker electrode placed under the right clavicle.
 - Connect iWire-BIO4 module to the main iWorks RA 834 module at iWire terminal 1.
- Connect pressure transducer to subject and to iWorks RA 834 module.
 - Using a stethoscope, identify the location of apex impact on the left chest wall (usually at about the fifth intercostal space and slightly more lateral than the left nipple).
 - Use athletic tape to hold the pressure transducer against the skin.
 - Tightly wrap the strap around the subject's chest to secure the transducer.

Recording:

- Have the subject lay on his or her left side with the left arm in front of the body in a comfortable position. (See example image below).



- Click “Record” on the Labscribe software.
- Instruct the subject to take 3 very deep breaths, then hold the last breath in for as long as possible.
- Stop the recording by clicking “Stop” after the subject exhales.
- Repeat recording trials as many times as desired.
- When finished, disconnect all sensors from the subject, provide a paper towel to clean any excess electrode gel, and sanitize the tilt table surface and sensors.
- Turn off the iWorks RA 834 module.

Export Data:

- In the upper left corner, go to File>Export>Export as .CSV
- Save the data to a USB drive.